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SEQUENCE LISTING

<110> Estell, David A.
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<140> US 09/932,183
<141> 2001-08-17
<150> US 09/308,375
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<151> 1998-09-08
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Asn	Asn	Thr	Lys	Asp	Gln	Val	Ala	Pro	Leu	Asn	Asp	Leu	Leu	Glu	Lys	
			1125					1130				1135				
Met	Ala	Glu	Gly	Lys	Ser	Ile	Ser	Ala	Asn	Glu	Ala	Asn	Thr	Leu	Ile	
		1140					1145					1150				
Gln	Lys	Asp	Lys	Glu	Leu	Ala	Gln	Ala	Ile	Ser	Ile	Glu	Asn	Gly	Val	
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Val	Lys	Ile	Asn	Arg	Asp	Glu	Val	Ile	Lys	Gln	Arg	Lys	Val	Lys	Leu	
	1170				1175					1180						
Asp	Ala	Tyr	Asn	Asp	Met	Val	Thr	Tyr	Ser	Asn	Lys	Leu	Met	Lys	Thr	
1185				1190					1195					1200		
Glu	Val	Asn	Asn	Ala	Ile	Lys	Thr	Leu	Asn	Ala	Asp	Thr	Leu	Arg	Ile	
		1205						1210					1215			
Asp	Ser	Leu	Lys	Lys	Leu	Arg	Lys	Glu	Arg	Lys	Leu	Asp	Met	Ser	Glu	
		1220				1225						1230				
Ala	Glu	Leu	Ser	Asp	Leu	Glu	Val	Lys	Ser	Ile	Asn	Asn	Val	Ala	Asp	
	1235					1240					1245					
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	1250				1255					1260						
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Leu	Glu	Ser	Tyr	Ile	Ser	Ala	Ser	Glu	Glu	Ala	Thr	Ser	Thr	Gln	Glu	
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Met	Asn	Lys	Gln	Ala	Leu	Val	Glu	Ala	Gly	Thr	Ser	Leu	Glu	Asn	Trp	
	1300						1305					1310				
Thr	Asp	Gln	Gln	Glu	Lys	Ala	Asn	Glu	Glu	Thr	Lys	Thr	Ser	Met	Tyr	

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Val Val Asp Lys Tyr Lys Glu Ala Leu Glu Lys Val Asn Ala Glu Ile
1330 1335 1340
Asp Lys Tyr Asn Lys Gln Val Asn Asp Tyr Pro Lys Tyr Ser Gln Lys
1345 1350 1355 1360
Tyr Arg Asp Ala Ile Lys Lys Glu Ile Lys Ala Leu Gln Gln Lys Lys
1365 1370 1375
Lys Leu Met Gln Glu Gln Ala Lys Leu Leu Lys Asp Gln Ile Lys Ser
1380 1385 1390
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1395 1400 1405
Gly Thr Pro Ser Ser Thr Gly Gly Ser Tyr Ser Gly Lys Tyr Ser Ser
1410 1415 1420
Tyr Ile Asn Ser Ala Ala Ser Lys Tyr Asn Val Asp Pro Ala Leu Ile
1425 1430 1435 1440
Ala Ala Val Ile Gln Gln Glu Ser Gly Phe Asn Ala Lys Ala Arg Ser
1445 1450 1455
Gly Val Gly Ala Met Gly Leu Met Gln Leu Met Pro Ala Thr Ala Lys
1460 1465 1470
Ser Leu Gly Val Asn Asn Ala Tyr Asp Pro Tyr Gln Asn Val Met Gly
1475 1480 1485
Gly Thr Lys Tyr Leu Ala Gln Gln Leu Glu Lys Phe Gly Gly Asn Val
1490 1495 1500
Glu Lys Ala Leu Ala Ala Tyr Asn Ala Gly Pro Gly Asn Val Ile Lys
1505 1510 1515 1520
Tyr Gly Gly Ile Pro Pro Phe Lys Glu Thr Gln Asn Tyr Val Lys Lys
1525 1530 1535
Ile Met Ala Asn Tyr Ser Lys Ser Leu Ser Ser Ala Thr Ser Ser Ile
1540 1545 1550
Ala Ser Tyr Tyr Thr Asn Asn Ser Ala Phe Arg Val Ser Ser Lys Tyr
1555 1560 1565
Gly Gln Gln Glu Ser Gly Leu Arg Ser Ser Pro His Lys Gly Thr Asp
1570 1575 1580
Phe Ala Ala Lys Ala Gly Thr Ala Ile Lys Ser Leu Gln Ser Gly Lys
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Val Gln Ile Ala Gly Tyr Ser Lys Thr Ala Gly Asn Trp Val Val Ile
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Lys Gln Asp Asp Gly Thr Val Ala Lys Tyr Met His Met Leu Asn Thr
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Pro Ser Val Lys Ala Gly Gln Ser Val Lys Ala Gly Gln Thr Ile Gly
1635 1640 1645
Lys Val Gly Ser Thr Gly Asn Ser Thr Gly Asn His Leu His Leu Gln
1650 1655 1660
Ile Glu Gln Asn Gly Lys Thr Ile Asp Pro Glu Lys Tyr Met Gln Gly
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Ile Gly Thr Ser Ile Ser Asp Ala Ser Gln Ala Glu Ala Glu Arg Gln
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Gln Gly Ile Ala Gln Ala Lys Ser Asp Leu Leu Ser Leu Gln Gly Asp
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1715 1720 1725
Gln Ser Lys Leu Asp Glu Phe Asp Lys Arg Ile Gly Asp Phe Asp Val
1730 1735 1740
Arg Ile Ala Lys Asp Glu Ser Met Ala Asn Arg Tyr Thr Ser Asp Ser
1745 1750 1755 1760

Lys Glu Phe Arg Lys Tyr Thr Ser Asp Gln Lys Lys Ala Val Ala Glu
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 Gln Ala Lys Ile Gln Gln Gln Lys Val Asn Trp Ile Gln Lys Glu Ile
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 Lys Thr Asn Lys Ala Leu Asn Ser Ala Gln Arg Ala Gln Leu Gln Glu
 1795 1800 1805
 Glu Leu Lys Gln Ala Lys Leu Asp Leu Ile Ser Val Gln Asp Gln Val
 1810 1815 1820
 Arg Glu Leu Gln Lys Gln Leu Val Gln Ser Lys Val Asp Glu Thr Leu
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 Lys Ser Ile Glu Lys Ser Ser Ser Lys Thr Gln Gly Lys Ile Lys Asp
 1845 1850 1855
 Val Asp Asn Lys Ile Ser Met Thr Glu Glu Asp Glu Asp Lys Val Lys
 1860 1865 1870
 Tyr Tyr Ser Lys Gln Ile Lys Leu Ile Gln Gln Gln Gln Lys Glu Ala
 1875 1880 1885
 Lys Lys Tyr Ile Lys Gln Leu Glu Glu Gln Lys Lys Ala Ala Lys Gly
 1890 1895 1900
 Phe Pro Asp Ile Gln Glu Gln Ile Thr Glu Glu Met Gln Asn Trp Lys
 1905 1910 1915 1920
 Asp Lys Gln Lys Asp Phe Asn Leu Glu Leu Tyr Asn Thr Lys Lys Ser
 1925 1930 1935
 Ile Lys Asp Ile Tyr Lys Ser Leu Ala Asp Glu Val Val Ser Ile Tyr
 1940 1945 1950
 Lys Glu Met Tyr Glu Lys Met Arg Asp Ile Glu Leu Glu Ala His Gln
 1955 1960 1965
 Lys Ala Thr Gln Asp Leu Ile Asp Glu Ile Asp Lys Thr Asp Asp Glu
 1970 1975 1980
 Ala Lys Phe Gln Lys Glu Leu Lys Glu Arg Gln Asp Ser Ile Gln Lys
 1985 1990 1995 2000
 Leu Thr Asp Gln Ile Asn Gln Tyr Ser Leu Asp Asp Ser Glu Phe Gly
 2005 2010 2015
 Lys Ser Lys Val Lys Glu Leu Thr Glu Gln Leu Gln Lys Glu Gln Leu
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 Asp Leu Asp Asp Phe Leu Lys Asp Arg Glu Ser Asn Lys Arg Lys Glu
 2035 2040 2045
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 2050 2055 2060
 Tyr Asp Asn Leu Val Asn Asp Glu Arg Ala Phe Lys Lys Leu Glu Asp
 2065 2070 2075 2080
 Lys Ile Met Asn Gly Lys Ile Thr Asp Ile Ala Lys Gln Leu Asn Glu
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 2100 2105 2110
 Ser Asn Asn Leu Ile Asp Lys Leu Lys Glu Ala Ser Asn Ala Leu Asn
 2115 2120 2125
 Thr Ala Val Lys Gly Asn Thr Thr Gly Lys Lys Val Ser Ser Phe Ala
 2130 2135 2140
 Ser Gly Gly Tyr Thr Gly Thr Gly Leu Gly Ala Gly Lys Leu Ala Phe
 2145 2150 2155 2160
 Leu His Asp Lys Glu Leu Ile Leu Asn Lys Thr Asp Thr Ala Asn Ile
 2165 2170 2175
 Leu Asp Thr Val Lys Ala Val Arg Glu Thr Ala Val Asp Asp Ser Pro
 2180 2185 2190
 Lys Trp Gly Gln Gly Val Lys Leu Ala Asp Leu Ile Lys Lys Gly Ile

2195	2200	2205
Thr Ser Ile Pro Ser Leu Val	Pro Asn Val Asn Gln Ser Met Leu Thr	
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Asn Ser Leu Ile Pro Asn Leu Lys Lys Ile Glu Ile Pro Ser Lys Thr		
2225	2230	2235
Ile Ala Ser Ser Gly Asp Lys Thr Ile Asn Leu Thr Asn Thr Phe His		
	2245	2250
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<212> PRT

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35 40 45	
Arg Arg Tyr Tyr Gly Phe Glu Tyr Gln Leu Arg Gln Ala Ala Ala	
50 55 60	
Arg Lys Ala Val Gly Glu Asp Gly Leu Asn Ala Ala Ser Ala Ala Leu	
65 70 75 80	
Leu Gly Leu Leu Arg Glu Gly Ala Lys Val Ser Ala Val Gln Gly Gly	
85 90 95	
Asn Pro Leu Gly Ala Tyr Ala Gln Thr Phe Gln Arg Leu Phe Gly Thr	
100 105 110	
Pro Ala Ala Glu Leu Leu Gln Pro Ser Asn Arg Val Ala Arg Gln Leu	
115 120 125	
Gln Ala Lys Ala Ala Leu Ala Pro Pro Ser Asn Leu Met Gln Leu Pro	
130 135 140	
Trp Arg Gln Gly Tyr Ser Trp Gln Pro Asn Gly Ala His Ser Asn Thr	
145 150 155 160	
Gly Ser Gly Tyr Pro Tyr Ser Ser Phe Asp Ala Ser Tyr Asp Trp Pro	
165 170 175	
Arg Trp Gly Ser Ala Thr Tyr Ser Val Val Ala Ala His Ala Gly Thr	
180 185 190	
Val Arg Val Leu Ser Arg Cys Gln Val Arg Val Thr His Pro Ser Gly	
195 200 205	
Trp Ala Thr Asn Tyr Tyr His Met Asp Gln Ile Gln Val Ser Asn Gly	
210 215 220	
Gln Gln Val Ser Ala Asp Thr Lys Leu Gly Val Tyr Ala Gly Asn Ile	
225 230 235 240	
Asn Thr Ala Leu Cys Glu Gly Gly Ser Ser Thr Gly Pro His Leu His	
245 250 255	
Phe Ser Leu Leu Tyr Asn Gly Ala Phe Val Ser Leu Gln Gly Ala Ser	
260 265 270	
Phe Gly Pro Tyr Arg Ile Asn Val Gly Thr Ser Asn Tyr Asp Asn Asp	

		275					280						285				
Cys	Arg	Arg	Tyr	Tyr	Phe	Tyr	Asn	Gln	Ser	Ala	Gly	Thr	Thr	His	Cys		
	290					295					300						
Ala	Phe	Arg	Pro	Leu	Tyr	Asn	Pro	Gly	Leu	Ala	Leu						
305					310					315							